Corpus callosum dysgenesis limits MRI changes to one hemisphere in status epilepticus

Figure 1 Unilateral seizure activity

Bipolar longitudinal EEG montage demonstrates unilateral ictal activity in C4 and P4. Complete bipolar montage (figure e-1) and prolonged EEG recording (figure e-2) are available on the Neurology® Web site at www.neurology.org.

Figure 2 Dysgenesis of the corpus callosum

Axial T2 (A) and sagittal T1 (B) images demonstrate the dysgenesis of the corpus callosum. Diffusion-weighted imaging (C) and apparent diffusion coefficient (D) images show cytotoxic edema throughout the complete right cortex, corresponding with electroencephalographic status epilepticus.

A 46-year-old man with cerebral palsy presented with complex partial seizures and left sided clonic movements. EEG showed right hemispheric seizures (figure 1). MRI demonstrated dysgenesis of the corpus callosum (figure 2, A and B) with hyperintense signal throughout the right cortex in diffusion-weighted imaging (DWI) (figure 2C) corresponding with decreased apparent diffusion coefficient signal (figure 2D). Gyriiform cortical hyperintensities on DWI may occur during status epilepticus that do not respect vascular distributions.^{1,2} We suggest that DWI changes are restricted to one hemisphere because dysgenesis of the corpus callosum prohibits the spread of ictal activity to the contralateral hemisphere.

Supplemental data at
www.neurology.org

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